Committee on Resources

Witness Testimony

NOAA S HYDROGRAPHIC CHARTING PROGRAM VIEW FROM A
CONTRACTOR S PERSPECTIVE
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As stated in the invitation I received to testify before this committee, it is clear that modern navigation technology can provide significant benefits to the safety and efficiency of maritime commerce; but only if comprehensive hydrographic data are available that meet the requirements of these new systems. Fortunately, many of the same technological advancements that have improved vessel navigation also have direct application to the methods by which hydrographic data are acquired. Through the development of shallow water multibeam sonars, improved side scan sonars and GPS positioning, hydrographic surveying can now be accomplished with the 100% bottom coverage that is critical for the production of electronic charts and precise navigation of commercial vessels. However, it should be pointed out that this technology is still very new, and improvements to the instrumentation and procedures are continually being made. These improvements have, and will continue, to increase the efficiency and accuracy of survey operations, however, they generate much more data than was ever available in the past and unless they are used in an appropriate manner there is a definite potential for error or omission.

I represent the Newport, RI office of Science Applications International Corporation (SAIC), an organization that has spent the last several years developing systems and conducting surveys that meet the strict requirements for hydrographic surveying. NOAA is one of many clients we support, however, they are unique, in that they play a large role in setting the standards to which our systems and procedures must adhere. SAIC was fortunate to be awarded the first contract that NOAA issued to the private sector for Hydrographic Surveying using multibeam and side scan sonars. This survey took place in Long Island and Vineyard Sounds during 1995 and we are now preparing for a second contract to conduct a similar survey in the Gulf of Mexico.

I believe that the contracting relationship between NOAA and SAIC was successful during execution of the first project, although it has been a very complex and difficult effort. As I stated above, the new instrumentation used for hydrographic surveying, generates large amounts of data, and it is my opinion that neither SAIC nor NOAA were prepared for the complexities that this caused on such a large survey effort. Throughout the duration of the first contract, NOAA was extremely rigid relative to quality control issues, thereby insuring valid data; however; they were flexible in allowing SAIC to modify our survey schedules and plans in order to deal with the problems encountered. I can honestly state that NOAA, working within the boundaries of federal contracting regulations, certainly did their part to make the first contract survey a success.

I can also state that lessons learned in the first survey were incorporated in the RFP for the Gulf of Mexico contracts which are now under negotiation. These contracts include more concise language concerning accuracy and coverage requirements as well as utilization of computer generated quality control, rather than traditional paper products. Furthermore, the use of the Brooks Act contracting approach, rather than the

original competitive, fixed price contract, changes the emphasis in NOAA s selection process to one of technical capability rather than cost. All of these changes should make the follow on contracts more efficient and profitable, both for NOAA and the contractors.

I believe that this is a key point. If NOAA is to be successful in contracting hydrographic surveys over the long term, it must find a way to maintain the quality of the data while making the venture a profitable one for contractors. This leads directly to the issue of liability insurance to protect the government from the legal consequences of possible survey errors. This insurance is currently included as a requirement in the RFP for the Gulf of Mexico survey contracts, however, our investigations have found that this is simply not a cost effective option. First, it is not clear that the insurance would be available for the extended time required, and second, the costs for a single survey sheet, exceed the overall funding available for the entire project.

Furthermore, it is not the survey contractor who actually puts the depth sounding on the chart: that is now, and should continue to be, NOAA s responsibility. In order to meet that responsibility NOAA must have the capacity to review and edit the data generated by survey contractors. The fact is, that if done correctly, the quality control procedures required by NOAA and the International Hydrographic Organization (IHO) do provide the traceability back to raw data that would allow NOAA to make appropriate charting decisions. However, these are complicated requirements that must take into account the performance specifications of modern instrumentation. I believe that NOAA is now capable of accepting that responsibility and should remain in that role by continuing to develop and enforce the appropriate quality control criteria to determine the validity of survey data. This means that NOAA must maintain a thorough understanding of the technology and procedures utilized by the survey contractors; a very difficult task during this period of rapid technology growth.

I am aware of the restrictions that have been placed on NOAA with regard to improvement of data acquisition technology within the organization, and although I agree with the emphasis placed on contracting with the private sector, I am concerned that NOAA will not be able to maintain its expertise over the long term without an ability to utilize such equipment in house. If NOAA does not have sufficient qualified hydrographers, experienced in multibeam sonar operations, they will soon be unable to realistically judge the quality and efficiency of contracted surveys or to participate in decisions made by the International Hydrographic Organization regarding the criteria for accuracy and reliability of hydrographic data. I believe that an appropriate level of technology improvement should be preserved within the NOAA appropriations to insure that the agency is able to maintain its role of setting standards for hydrographic survey operations in a manner that will allow NOAA to accept the liability associated with production of nautical charts. I would even go one step further, and suggest that NOAA should be given responsibility for initiating and developing new technology and procedures to improve the efficiency and accuracy of hydrographic surveys.

This is important to SAIC, not only because of our work with NOAA to meet the survey needs of the coastal United States, but also because we, and other contractors, compete on an international level for hydrographic systems and surveys. Many of our international competitors are supported by government subsidies that are not available to US companies. The major discriminator we do have, is that our systems and procedures have been verified by NOAA to meet IHO standards. NOAA s credibility in terms of quality control of hydrographic data and continued participation in the International Hydrographic Organization are key to maintaining the competitive stature of American companies in the international marketplace.

In summary, we at SAIC look forward to participating in the very important task of surveying the critical areas of the US coastline and continuing to work with NOAA to insure that the data acquired are compatible

with the requirements of modern navigation systems. In order to accomplish this objective, we feel it is critical that NOAA maintain the expertise that will allow the agency to continue to set the standards, provide the quality assurance and accept the liability that is inherent with the production of nautical charts.

NOAA S HYDROGRAPHIC CHARTING PROGRAM
VIEW FROM A CONTRACTOR S PERSPECTIVE

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SUMMARY

Hydrographic surveys with 100% bottom coverage are now available and are critical to the application of new navigation systems which significantly improve the safety and efficiency of marine commerce. However, the execution of these surveys requires modern technology and complex procedures that are continually changing. NOAA is currently the agency that sets the standards that insure these data are accurate and complete. This role should be maintained for future efforts.

SAIC has completed one large hydrographic survey for NOAA and is negotiating for a second. To date the relationship with NOAA has been positive and improvements have been made between the first and second contracts.

If NOAA is to be successful in contracting hydrographic surveys over the long term, it must create a situation that will allow the contractors to be profitable, and must accept the liability for charting errors. The quality control now exercised by NOAA is sufficient to accomplish this, however, it is critical that this technical capability be maintained. I would recommend that NOAA be provided funds for in house development of new systems and procedures to sustain its capability to set standards and to maintain its position as a participant in the International Hydrographic Organization (IHO). This is important, not only for surveys of US coastal waters, but to support American companies in international competition.

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